Summary

1. Material

1.1. Configuration interface 3
1.2. Heart rate monitor 3
1.3. StopWatch 4
1.4. Transmitters 4

2. Freelap software

2.1. Heart rate monitor configuration 4
2.2. Freelap Manager 6

3. Getting started

3.1. Fixing Heart rate monitor
3.1.1. Default 9
3.1.2. Swimming 10
3.2. Switch ON 10
3.3. Switch OFF 11
3.4. Stopwatch configuration with HR display 11

4. Technical data

4.1. Heart rate monitor 12
4.2. Configuration interface 12

3.2. Switch ON

To switch on the heart rate monitor, it's important to humidify the two electrodes with spray. 3 LEDS flashs confirm the start of the record (~5s after positionning).

Then, during 40s the red LED flicks at the rate of the heart.

3.3. Switch OFF

By removing the heart rate monitor, the recording will stop automatically after a minute (risk of interference at the end of the recording)

3.4. Stopwatch configuration with HR display

Heart rate monitor setting to visualize HR (freelap tools)

- Parameter « stopwatch emission» must be check
- Modify this parameter with freelap tools (config_cardio)

Stopwatch setting to visualize HR

- Put the Stopwatch in position Hour
- Press the «mode» button to pass in chrono mode
- Press 2s the «select» button to pass in configuration mode
- Select SAF mode with «start/lap» button
- Press «select» button and edit «1s» with «start/lap» button
- Press twice «select» button to desactivate beep
- Press «select» button to pass in distance configuration
- Select 2 meters with «select» button and the «start/lap» button
- Press «stop/reset» button to confirm

Start

- Press «start/lap» button to start the stopwatch
- Press «mode» button to watch speed panel
- Speed = Heart rate (ex.157 HR)

1.3. Freelap StopWatch

The Stopwatch shows either the speed of the runner (use with transmitters) or the instantaneous heart rate. (For settings see chapter 3.5)

Notice : the two parameters cannot be visualized at the same time during the training.

1.4. Transmitters

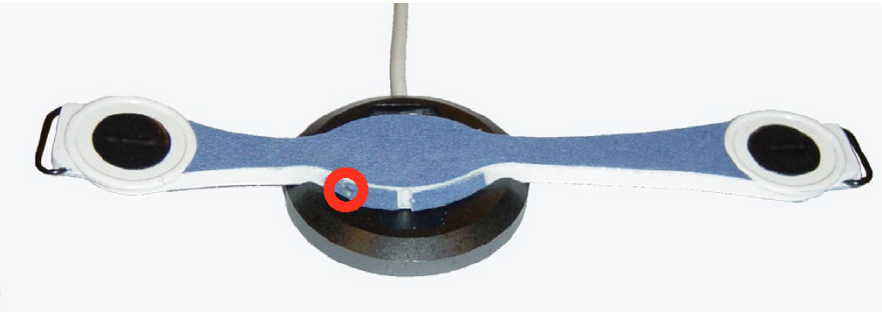
All transmitters emit waves low frequency of various powers. Carried on the thorax, the heart rate monitor detects these waves at a precise distance.

2. Freelap Software

- Insert freelap CD in your CD-ROM or DVD-ROM
- Follow the steps
- Click on finish button

2.1. Heart rate monitor configuration

- Click on start -> programs -> freelap -> configuration -> cardio
- Position heart rate monitor on the configuration interface



Notice : The red LED must be opposite USB cable

3. Getting started

3.1. Fixing Heart rate monitor
3.1.1. Default

Measure your turn of thorax then choose the adapted belt :

75 to 82 cm	S
82 to 90 cm	M
90 to 100 cm	L

Humidify the two electrodes using the spray

7 Delete the memory of heart rate monitor

8 Options :

Stopwatch emission: allow to visualize heart rate on stopwatch

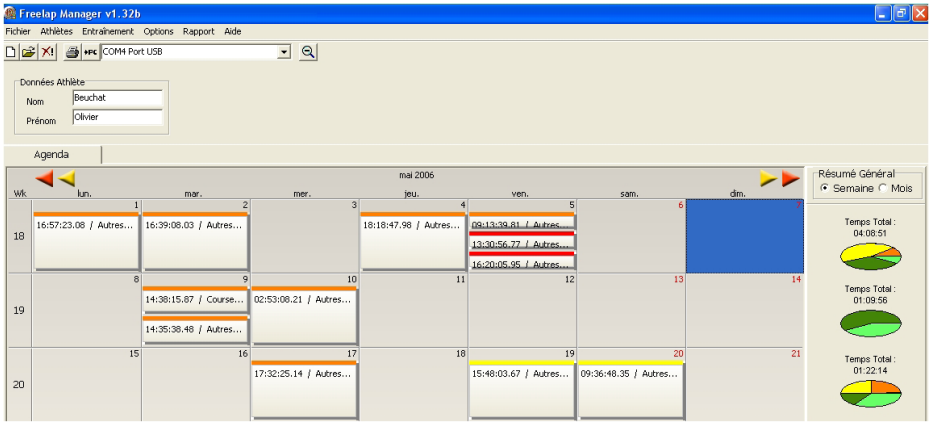
2 types of record :

- Beat to beat
- All 12 beats

Amplifier EKG :
Auto : heart rate monitor detect automatically EKG
Maxi : this parameter is to be used for the people who have a weak signal EKG. (recommended for swimming).

2.2. Software Freelap Manager

• Click start -> programs -> freelap -> freelap Manager



1. Material

1.1. Configuration interface

It allow to set the heart rate monitor with differents parameters. It's also used to download data to the PC with freelap manager.

Configuration interface

When it's connected to the computer, this last will detect the peripheral automatically and will require to install the respective drivers (including in installation CD).

1.2. Heart rate monitor

Ultra comfortable and having an excellent reliability, the heart rate monitor records simultaneously the heart rate and lap times between freelap transmitters. The belt records all the data and once restores them on your computer by the configuration interface the finished drive (See chapter 2). The storage capacity is approximately 36 hours with 150 BPM in mode 12 beats (with sporting goal) and of approximately 3 hours by recording beat to beat (with scientific goal).

4. Technical data :
4.1. Heart rate monitor

Lap time :
Precision: + 2/100'' of second for a rectilinear trajectory. In athletics, the width of a lane is 1.22m. The ideal trajectory is in the middle of the lane. A disordered race in extreme cases left and right of the lane generates a worse precision (+ 5/100'' of second).

Cardiac measurement :
Error rate : lower than 1 ‰ when the heart rate monitor is positioned and humidified correctly before the training.
Activities concerned: running, swimming, cycling, cross country ski.

Weight : 65 grams
Dimensions : 230 mm x 34 mm x 8 mm

Autonomy : 4000 hours only HR
2000 hours with transmitters detection
6000 heures without stopwatch transmission

Stand-by: 6 years.
Change of battery by Freelap SA

Memory : 4000 laps

Speed transfer : 38'400 bauds (~15s for all memory)

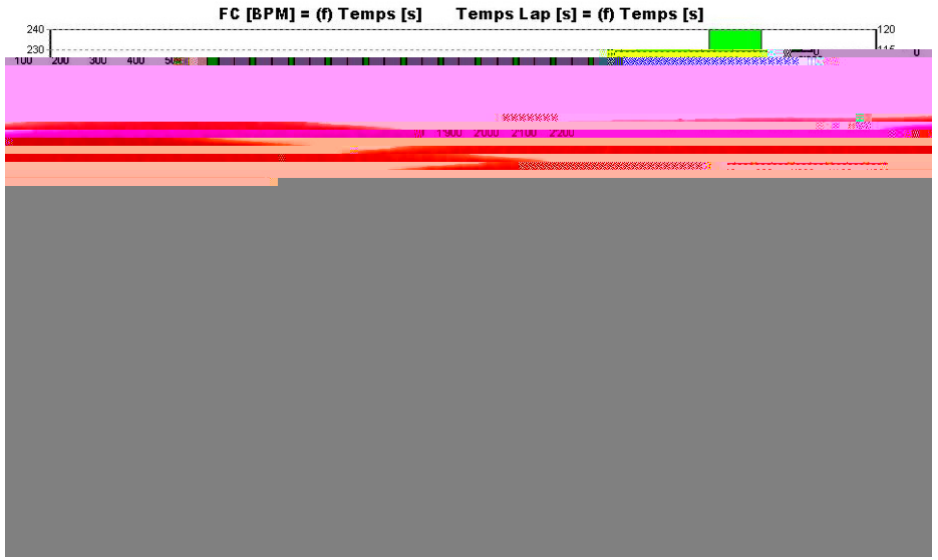
Distance stopwatch reception : ~60cm.
For certain activities (cross country, swimming), the stopwatch can lose the signal when it's carried to the wrist.
In cross country, it is advised to fix the stopwatch at the size (gourd carries for example), the skier will have a vision of the stopwatch without having to cut its effort.
In cycling, the stopwatch will be fixed at the handlebar.

4.2. Interface configuration

Weight : 150 grams
Dimensions : Ø 77mm x 11mm
Speed transfer : 38'400 bauds

Example swimming :

In Red : Heart rate [BPM] In Blue : Average Heart Rate [BPM]
In Light Blue : Lap Time [s] In Light Green : Pause time [s]



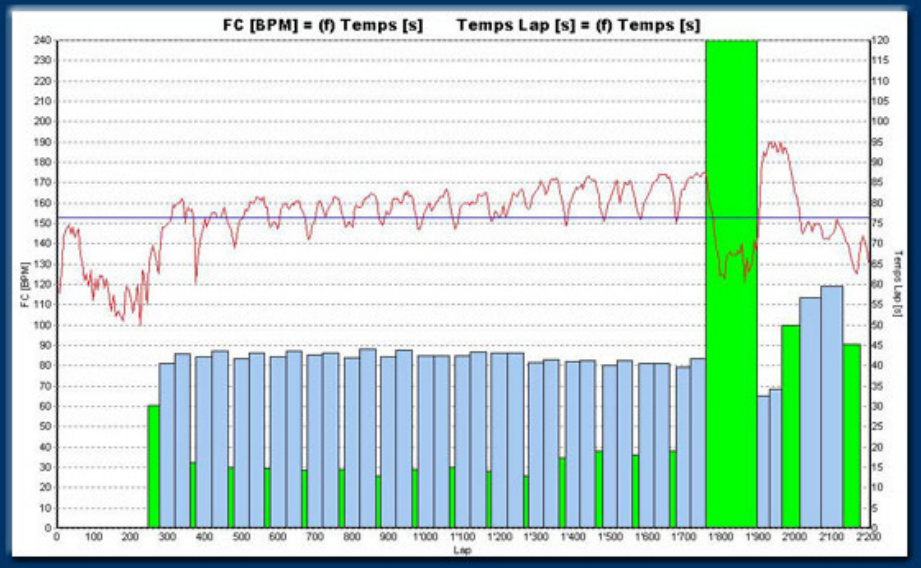
In Red : Heart rate [BPM] In Blue : Average Heart Rate [BPM]
In Light Blue : Speed Lap [m/s] In Black : Cardiac score [m/pulse]

LAP	Temps [s]	Vitesse [m/s]	Distance [m]	FC Moy [bpm]	FC Max [bpm]	Score [m/pulse]
Pause	00:00:18.03			159	167	
27	00:00:40.62	01.23		162	169	00.72
28	00:00:40.54	01.23		173	174	00.65
SubTotal	00:01:21.16		100.00			
Moyenne	00:00:40.58					
Pause	00:00:18.94			164	173	
29	00:00:39.72	01.26		166	173	00.71
30	00:00:41.65	01.20		174	175	00.63
SubTotal	00:01:21.37		100.00			
Moyenne	00:00:40.68					
Pause	00:02:18.42			137	169	
31	00:00:32.57	01.54		175	188	00.80
32	00:00:34.27	01.46		188	190	00.68
SubTotal	00:01:06.84		100.00			
Moyenne	00:00:33.42					
Pause	00:00:49.99			174	187	
33	00:00:56.80	00.88		148	151	00.60
34	00:00:59.50	00.84		146	152	00.59
SubTotal	00:01:56.30		100.00			
Moyenne	00:00:58.15					
Pause	00:00:45.26			134	143	
SubTotal	00:00:00.00		00.00			
Moyenne						
Total	00:23:37.90		1700.00			
Min	00:00:32.57	00.84				
Max	00:00:59.50	01.54				

freelap®

For more information, contact us, or visit our webstite
www.freelap.ch

Address	Freelap SA Av. D.-Jeanrichard 2A 2114 Fleurier Switzerland
Tel	+41 (0) 32 861 52 42
E-mail	contact@freelap.ch

© freelap SA 2003. All rights reserved
freelap is a registered trademark of freelap SA

Heart rate monitor
Freelap